

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WALTER L. MODEN
and JOHN O. JACOBSON

Appeal No. 1999-0591
Application 08/581,905

ON BRIEF

Before JERRY SMITH, DIXON and BARRY, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-39 and 46-57. Claims 40-45 stand withdrawn from consideration by the examiner as being directed to a nonelected invention. An amendment after final rejection was filed on June 9, 1998 but was denied entry by the examiner.

The disclosed invention pertains to a method for securing a semiconductor die within a cavity of a fixture for performing operations on the semiconductor die. More particularly, the invention uses a piece of tape having an adhesive coating thereon which has been cut and transferred to the cavity within the fixture, and which adhesively holds the die in the cavity.

Representative claim 1 is reproduced as follows:

1. A method of retaining a semiconductor die in a fixture to perform operations on said die, said method comprising:

providing said fixture;

providing tape having adhesive on at least one side thereof;

cutting a piece of the tape having a size to fit in said fixture;

transferring the piece of the tape to said fixture;

placing said semiconductor die on the piece of the tape transferred to said fixture;

adhesively securing one of said fixture and said semiconductor die by the adhesive on at least one side of the piece of tape;

performing operations on said semiconductor die when mounted in said fixture;

removing said die from said fixture after performing said operations on said die; and

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removing the piece of tape from the fixture after the performing of said operations on said semiconductor die in said fixture.

The examiner relies on the following references:

Phelps, Jr. et al. (Phelps)	4,796,078	Jan. 03, 1989
Shindo et al. (Shindo)	5,048,179	Sep. 17, 1991
Kinsman et al. (Kinsman)	5,336,649	Aug. 09, 1994
Tsukamoto et al. (Tsukamoto)	5,406,459	Apr. 11, 1995
Wood et al. (Wood)	5,440,240	Aug. 08, 1995
Childers et al. (Childers)	5,442,386	Aug. 15, 1995

The admitted prior art of appellants' specification.

The following rejections are before us on appeal:

1. Claims 1-5, 7, 9, 15-21, 23-28, 30, 32, 38, 39 and 55-57 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Kinsman and the admitted prior art.

2. Claims 6 and 29 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Kinsman and the admitted prior art in view of Wood.

3. Claim 10-12 and 33-35 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Kinsman and the admitted prior art in view of Childers.

4. Claims 8 and 31 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Kinsman and the admitted prior art in view of Shindo.

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5. Claims 13, 14, 22, 36, 37 and 46-50 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Kinsman and the admitted prior art in view of Tsukamoto.

6. Claims 51-54 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Kinsman and the admitted prior art in view of Tsukamoto and further in view of Phelps.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answers.

It is our view, after consideration of the record before us, that the evidence relied upon is insufficient to support the rejections of the claims on appeal. Accordingly, we reverse.

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In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness.

Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered [see 37 CFR § 1.192(a)].

Since the broadest claims on appeal are rejected on the combination of Kinsman and the admitted prior art, we consider first the rejection of those claims which are based only on Kinsman and the admitted prior art. The examiner finds that Kinsman teaches a method for retaining a semiconductor die in a cavity to perform operations on the die using a piece of adhesive tape which has been sized and transferred to the fixture. The

examiner acknowledges that Kinsman does not teach the step of cutting the tape, the steps of cleaning the fixture and removing the tape, and the step of heating the fixture to a second temperature after removal of the die [answer, pages 4-6]. The examiner finds that each of these steps is conventional or would have inherently formed a part of the process in Kinsman. Finally, the examiner finds that adding these conventional steps to the process taught by Kinsman would have been obvious to the artisan.

Appellants argue that neither Kinsman nor the admitted prior art teaches or suggests the use of a piece of tape to retain the semiconductor die in the test fixture. They assert that Kinsman and the admitted prior art teach a gel pack which uses a surface static charge to adhere the die to the fixture or a "tape type" adhesive which is sprayed on the fixture and is not a piece of tape. Appellants further argue that the examiner has improperly taken official notice of facts which are outside the record. Specifically, appellants argue that the fact that official notice is taken of a piece of tape does not render obvious the cutting of the tape, the adhesive coating on the tape, and the use of the tape in performing operations or the

testing and burn-in of a semiconductor die [brief, pages 9-15].

The examiner responds that Kinsman is not relied on for the teaching of a piece of adhesively coated tape [answer, page 9], but the examiner also responds that Kinsman teaches the process of providing tape having adhesive on at least one side thereof [id., page 10]. The examiner does not directly respond to appellants' argument that the examiner has improperly taken official notice of the claimed invention. Appellants essentially repeat their arguments in the reply brief.

We will not sustain the rejection of the claims based on Kinsman and the admitted prior art because the examiner has failed to establish a prima facie case of obviousness. We first note that the examiner cites Kinsman as teaching the provision of a piece of tape having adhesive on at least one side thereof, but the examiner also asserts that he is not relying on Kinsman for this teaching. As pointed out by appellants, Kinsman teaches a "tape type" adhesive rather than a piece of tape as claimed. The examiner has also admitted that there are several steps of the claimed invention which are not disclosed by the applied prior art, but the examiner dismisses these steps as conventional, well known or inherent.

It is noted that we previously remanded this case to the examiner to clarify which reference teaches the tape having adhesive on at least one side thereof and to clarify the examiner's findings based on official notice, what is well known in the art and what is inherently suggested by the applied prior art [remand, pages 2-4]. As noted in the remand, the examiner acknowledges that Kinsman does not teach the steps of cutting the tape, transferring the tape, cleaning the fixture and removing the tape, and heating the fixture to a second temperature after removal of the die. The examiner simply stated that each of these steps was conventional or would have inherently formed a part of the process in Kinsman.

In response to the remand, the examiner repeats his finding that Kinsman teaches the step of providing a tape (not labeled) having adhesive on at least one side thereof based on the disclosure of a tape-type die adhesive in Kinsman. The examiner also notes that the claimed phrase "a piece of tape having adhesive on at least one side thereof" encompasses a piece of tape comprised entirely of adhesive material, and not necessarily coated. The examiner argues that Kinsman teaches a piece of tape having adhesive on at least one side thereof [supplemental answer, pages 10-12].

There is no basis on this record for the examiner's finding that a piece of tape can consist entirely of adhesive material. This finding would require that every adhesive material be considered a piece of tape. The use of tape in the disclosed invention corresponds to the normal definition of a substrate material having an adhesive formed on at least one side thereof. The tape-type adhesive disclosed in Kinsman clearly refers only to an adhesive material and does not disclose a piece of tape.

With respect to the remand based on a clarification of the findings related to official notice, what is well known and what is inherent in the prior art, the examiner responds that he only took official notice of the step of cutting the tape and not for the additional steps. While the words "official notice" may have only been attached to the step of cutting, the additional steps were similarly dismissed using findings of what is well known in the art and what would be inherent in the prior art as a substitute for actual evidence in this case. The examiner has not responded to the remand with respect to these additional steps.

As noted above, the examiner has the burden of initially presenting a prima facie case of obviousness. The examiner cannot satisfy this burden by simply dismissing differences between the claimed invention and the teachings of the prior art as being obvious. The examiner must present us with an evidentiary record which supports the finding of obviousness. It does not matter how strong the examiner's convictions are that the claimed invention would have been obvious, or whether we might have an intuitive belief that the claimed invention would have been obvious within the meaning of 35 U.S.C. § 103. Neither circumstance is a substitute for evidence lacking in the record. Our reviewing court requires that the finding of obviousness be based on an evidentiary record which clearly supports such a finding. Whether there is prior art available which would render these appealed claims unpatentable we cannot say. We can say, however, that the record presently before us does not support the rejection as formulated by the examiner.

Since each rejection made by the examiner fundamentally relies on the teachings of Kinsman and the admitted prior art, and since none of the additionally applied references overcome the basic deficiency in this combination, we do not sustain the

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examiner's rejection of any of the claims on appeal. Therefore,
the decision of the examiner rejecting claims 1-39 and 46-57 is
reversed.

REVERSED

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JERRY SMITH)	
Administrative Patent Judge)	
)	
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)	BOARD OF PATENT
JOSEPH L. DIXON)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
LANCE LEONARD BARRY)	
Administrative Patent Judge)	

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